

PLEASE AMEND THIS APPLICATION AS FOLLOWS:

In The Title:

Change the title to:

-- COMPOSITION OF MATTER COMPRISING PRIMARY NUCLEIC ACID
COMPONENT --.

In the Claims:

Cancel claim 1.

Add new claims 245-313 as follows

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-- 245. (New) A composition comprising a primary nucleic acid component which upon introduction into a cell produces a secondary nucleic acid component which is capable of producing a nucleic acid product; or a tertiary nucleic acid component, or both, wherein said primary nucleic acid component is not obtained with said secondary or tertiary component or said nucleic acid product. --

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-- 246. (New) The composition of claim 245, wherein said cell is eukaryotic or prokaryotic. --

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-- 247. (New) The composition of claim 245, wherein said primary nucleic acid component is selected from a nucleic acid, a nucleic acid construct, a nucleic acid conjugate, a virus, a viral fragment, a viral vector, a viroid, a phage, a plasmid, a plasmid vector, a bacterium and a bacterial fragment, or a combination of the foregoing. --

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-- 248. (New) The composition of claim 245, wherein said primary nucleic acid component is single-stranded, double-stranded or partially double-stranded. --

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-- 249. (New) The composition of claim 245, wherein said primary nucleic acid component is selected from DNA, RNA and nucleic acid analogs, or a combination thereof. --

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-- 250. (New) The composition of claim 245, wherein said DNA, RNA or both are modified. --

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-- 251. (New) The composition of claim 245, wherein said secondary nucleic acid component or said tertiary nucleic acid component is selected from DNA, RNA, a DNA-RNA hybrid and a DNA-RNA chimera, or a combination of the foregoing. --

-- 252. (New) The composition of claim 245, further comprising a signal processing sequence. --

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-- 253. (New) The composition of claim 252, wherein said signal processing sequence is selected from a promoter, an initiator, a terminator, an intron and a cellular localization element, or a combination of the foregoing. --

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-- 254. (New) The composition of claim 252, wherein said signal processing sequence is contained in an element selected from said primary nucleic acid component, said secondary nucleic acid component, said nucleic acid product and said tertiary nucleic acid component, or a combination of the foregoing. --

-- 255. (New) The composition of claim 245, wherein said nucleic acid product is single-stranded. --

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-- 256. (New) The composition of claim 245, wherein said nucleic acid product is selected from antisense RNA, antisense DNA, a ribozyme and a protein binding nucleic acid sequence, or a combination of the foregoing. --

-- 257. (New) The composition of claim 256, wherein said protein binding nucleic acid sequence comprises a decoy that binds a protein required for viral assembly or viral replication. --

-- 258. (New) The composition of claim 245, wherein said component or nucleic acid production is mediated by a vector. --

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-- 259. (New) The composition of claim 258, wherein said vector is selected from a viral vector, a phage vector and a plasmid vector, or a combination thereof. --

-- 260. (New) A cell containing the composition of claim 245. --

-- 261. (New) The cell of claim 260, wherein said cell is a eukaryotic or prokaryotic. --

-- 262. (New) The cell of claim 260, wherein said composition has been introduced *ex vivo* into said cell. --

-- 263. (New) The cell of claim 260, wherein said composition has been introduced *in vivo* into said cell. --

-- 264. (New) A secondary or tertiary nucleic acid component or nucleic acid product produced from the composition of claim 245. --

-- 265. (New) A composition of matter comprising a nucleic acid component which when present in a cell produces a non-natural nucleic acid product, which product comprises (i) a portion of a localizing ~~localizing~~ entity, and (ii) a nucleic acid sequence of interest. --

-- 266. (New) The composition of claim 265, wherein said portion of the localizing entity (i) is sufficient to permit localization of said non-natural nucleic acid product. --

-- 267. (New) The composition of claim 265, wherein said portion of the localizing entity (i) comprises a cytoplasmic or nuclear localization signalling sequence. --

-- 268. (New) The composition of claim 265, wherein said nucleic acid sequence of interest (ii) is selected from ~~DNA, RNA, a DNA-RNA hybrid and a DNA-RNA chimera, or a combination of the foregoing.~~ --

-- 269. (New) The composition of claim 268, wherein said RNA comprises a nuclear localized RNA complexed with protein molecules. --

-- 270. (New) The composition of claim 269, wherein said nuclear localized RNA comprises a snRNA. --

-- 271. (New) The composition of claim 270, wherein said snRNA comprises U1 or U2, or both. --

-- 272. (New) The composition of claim 265, wherein said non-natural nucleic acid product is single-stranded. --

-- 273. (New) The composition of claim 265, wherein said non-natural nucleic acid product is selected from antisense RNA, antisense DNA, sense RNA, sense DNA, a ribozyme and a protein binding nucleic acid sequence. --

-- 274. (New) The composition of claim 273, wherein said protein binding nucleic acid sequence comprises a decoy that binds a protein required for a viral assembly or viral replication. --

-- 275. (New) The composition of claim 273, wherein said non-natural nucleic acid product comprises antisense RNA or antisense DNA and said portion of the localizing entity (I) comprises a nuclear localization signalling sequence. --

-- 276. (New) The composition of claim 273, wherein said non-natural nucleic acid product comprises antisense RNA or antisense DNA and said portion of the localizing entity (II) comprises a cytoplasmic localization signalling sequence. --

-- 277. (New) The composition of claim 273, wherein said non-natural nucleic acid product comprises sense RNA or sense DNA and said portion of a localizing entity (I) comprises a cytoplasmic localization signalling sequence. --

-- 278. (New) The composition of claim 265, wherein said nucleic acid component is selected from a nucleic acid, a nucleic acid construct, a nucleic acid conjugate, a virus, a viral fragment, a viral vector, a viroid, a phage, a plasmid, a plasmid vector, a bacterium and a bacterial fragment, or a combination of the foregoing. --

-- 279. (New) The composition of claim 278, wherein said nucleic acid is selected from DNA, RNA, a DNA-RNA hybrid and a DNA-RNA chimera, or a combination of the foregoing. --

-- 280. (New) The composition of claim 278, wherein said nucleic acid is modified. --

-- 281. (New) The composition of claim 265, wherein said cell is eukaryotic or prokaryotic.

-- 282. (New) The composition of claim 265, wherein the production of said nucleic acid product is mediated by a vector. --

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283. (New) The composition of claim 282, wherein said vector is selected from a viral vector, a phage vector and a plasmid vector, or a combination thereof. -

-- 284. (New) A cell containing the composition of claim 265. --

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-- 285. (New) The cell of claim 284, wherein said cell is eukaryotic or prokaryotic. --

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-- 286. (New) The cell of claim 284, wherein said composition has been introduced *ex vivo* into said cell. --

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-- 287. (New) The cell of claim 284, wherein said composition has been introduced *in vivo* into said cell. --

-- 288. (New) A biological system containing the cell of claim 284. --

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289. (New) The biological system of claim 288, wherein said system is selected from an organism, an organ, a tissue and a culture, or a combination thereof.

-- 290. (New) A process for localizing a nucleic acid product in a eukaryotic cell, comprising:

- (a) providing a composition of matter comprising a nucleic acid component which when present in a cell produces a non-natural nucleic acid product, which product comprises:
 - (i) a portion of a localizing entity, and
 - (ii) a nucleic acid sequence of interest; and

(b) introducing said composition into said cell or into a biological system containing said cell. --

-- 291. (New) The process of claim 290, wherein said portion of the localizing entity (i) is sufficient to permit localization of said nucleic acid product. --

-- 292. (New) The process of claim 290, wherein said nucleic acid product comprises antisense RNA or antisense DNA and said portion of a localizing entity (i) comprises a nuclear localization signalling sequence. --

-- 293. (New) The process of claim 290, wherein said nucleic acid product comprises sense RNA or sense DNA and said portion of a localizing entity (i) comprises a nuclear localization signalling sequence. --

-- 294. (New) The process of claim 290, wherein said nucleic acid product comprises sense RNA or sense DNA and said portion of a localizing entity (i) comprises a nuclear localization signalling sequence. --

-- 295. (New) The process of claim 290, wherein said nucleic acid product comprises snRNA. --

-- 296. (New) The process of claim 295, wherein said snRNA comprises U1 or U2 or both. --

-- 297. (New) The process of claim 290, wherein said composition is introduced *ex vivo* into said cell or into a biological system containing said cell. --

-- 298. (New) The process of claim 290, wherein said composition is introduced *in vivo* into said cell or into a biological system containing said cell. --

-- 299. (New) A nucleic acid component which upon introduction into a cell is capable of producing more than one specific nucleic acid sequence, each such specific sequence so produced being substantially nonhomologous with each other and being either complementary with a specific portion of a single-stranded nucleic acid of interest in a cell or capable of binding to a specific protein of interest in a cell. --

-- 300. (New) The nucleic acid component of claim 299, wherein said single-stranded nucleic acids of interest are part of the same polynucleotide sequence or part of different polynucleotide sequences. --

-- 301. (New) The nucleic acid component of claim 299, wherein said single-stranded nucleic acids of interest comprise a viral sequence. --

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C* -- 302. (New) The nucleic acid component of claim 299, wherein said component is derived or selected from a nucleic acid, a nucleic acid construct, a nucleic acid conjugate, a virus, a viral fragment, a viral vector, a phage, a plasmid, a bacterium and a bacterial fragment, or a combination of any of the foregoing. --

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C* -- 303. (New) The nucleic acid component of claim 299, wherein said nucleic acid is selected from DNA, RNA and nucleic acid analogs, or a combination thereof. --

-- 304. (New) The nucleic acid component of claim 303, wherein said DNA or RNA is modified. --

-- 305. (New) The nucleic acid component of claim 299, comprising either more than one promoter or more than one initiator, or both. --

-- 306. (New) The nucleic acid component of claim 299, wherein each said specific nucleic acid sequence product is capable of being produced independently from either different promoters, different initiators, or a combination of both. --

-- 307. (New) The nucleic acid component of claim 299, wherein said specific nucleic acid sequence products are either complementary to a viral or cellular RNA, or bind to a viral or cellular protein, or a combination of the foregoing. --

-- 308. (New) The nucleic acid component of claim 307, wherein said complementary specific nucleic acid sequence products are capable of acting as antisense. --

-- 309. (New) The nucleic acid component of claim 308, wherein said viral or cellular protein comprises a localizing protein or a decoy protein. --

-- 310. (New) The nucleic acid component of claim 309, wherein said localizing protein comprises a nuclear localizing protein or a cytoplasmic localizing protein. --

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-- 311. (New) The nucleic acid component of claim 309, wherein said decoy protein binds a protein required for viral assembly or viral replication. --

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-- 312. (New) The nucleic acid component of claim 299, wherein said specific nucleic acid sequence products are selected from antisense RNA, antisense DNA, a ribozyme and a protein binding nucleic acid sequence, or a combination of any of the foregoing. --

-- 313. (New) The nucleic acid component of claim 299, further comprising a means for delivering said component to a cell containing the nucleic acid of interest or the specific protein of interest. --

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